

IN THE CLAIMS

1. (Cancelled)

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37. (Cancelled)
38. (New) A method for updating microcode of a printer comprising the steps of:
embedding a microcode update file as a module in a print job file;
inputting said print job file to said printer;
recognizing that said print job file includes said microcode update file; and
writing said microcode update file to a memory area in said printer indicated in said
print job file.
39. (New) The method of claim 38, wherein said step of recognizing includes
interrogating a file header of said print job file wherein a presence of said microcode
update file in said print job file is indicated by a bit pattern.
40. (New) The method of claim 39, wherein said bit pattern is located within a header
portion of said print job file.
41. (New) The method of claim 38, wherein said step of inputting further comprises
downloading said module to volatile memory.

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42. (New) The method of claim 38, wherein said step of writing to a memory area further comprises writing to a non-volatile memory area.
43. (New) The method of claim 38, wherein said microcode update file includes an executable program.
44. (New) The method of claim 43, further comprising after said step of writing, the step of transferring execution to said executable program.
45. (New) The method of claim 44, wherein after said step of transferring, said executable program returns execution to a previously running program.
46. (New) The method of claim 44, wherein said step of transferring comprises loading said executable program as a next task to be performed while another task is in process.
47. (New) The method of claim 44, wherein said step of transferring comprises first loading said executable program in to execution memory.
48. (New) The method of claim 44, wherein said print job file comprises a plurality of modules, wherein after said step of transferring, said executable program downloads other modules of said plurality of modules to said printer.
49. (New) The method of claim 48, wherein said step of downloading comprises passing pointers to said other modules to said executable program.
50. (New) The method of claim 38, wherein said module further comprises a module header.
51. (New) The printer job file of claim 50, wherein said module header comprises a bit pattern that directs a processor in said printer to uncompress said module.

52. (New) The method of claim 50, wherein said module header comprises a data field for specifying a destination storage location for said module.

53. (New) The method of claim 52, wherein said module header comprises a bit pattern that directs a processor in said printer to create a file specified by said data field.

54. (New) The method of claim 52, wherein said module header comprises a bit pattern that directs a processor in said printer to delete a file specified by said data field.

55. (New) The method of claim 52, wherein said module header comprises a bit pattern that directs a processor in said printer to create a directory specified by said data field.

56. (New) The method of claim 52, wherein said module header comprises a bit pattern that directs a processor in said printer to delete a directory specified by said data field.

57. (New) An apparatus for updating microcode comprising;
a computing device having a program for composing and downloading a print job file, said print job file comprising a microcode update file; and
a printer comprising a processor, a memory for storing microcode and other information, a printing engine, and an interface for sending and receiving information;
wherein said processor, said memory, said printing engine, and said interface are coupled together by a bus, and said processor directs the activities of said printing engine and said interface under control of said microcode;
and further wherein said computing device and said printer are coupled through said interface and said computing device downloads said print job file to said printer, said processor recognizes that said print job file includes said microcode update file and writes said microcode update file to a memory area in said printer indicated in said print job file.

58. (New) The apparatus of claim 57, wherein said print job file further comprises a print job file header, wherein a presence of a microcode update file in said print job is indicated by a bit pattern.

59. (New) The apparatus of claim 57, wherein said print job file further comprises a module comprising a module header and module body, wherein said module body comprises said microcode update file.

60. (New) The apparatus of claim 57, wherein said print job file header further comprises a bit pattern that represents an indication of a destination printer.

61. (New) The apparatus of claim 57, wherein said print job file header further comprises a bit pattern that indicates that said microcode update file is to be executed by said processor.

62. (New) The apparatus of claim 57, wherein said print job file header further comprises a bit pattern that indicates that after execution, said microcode update file returns control to a previously running program in said printer.

63. (New) The print job file of claim 61 wherein said print job file comprises a plurality of modules and said print job file header further comprises a bit pattern that indicates that during execution, said microcode update file downloads another of said plurality of modules to said printer.

64. (New) The print job file of claim 59 wherein said module header comprises a bit pattern that directs a processor in said printer to uncompress said module.

65. (New) The print job file of claim 59 wherein said module header comprises a data field for specifying a destination storage location for said module.

66. (New) The print job file of claim 65 wherein said module header comprises a bit pattern that directs a processor in said printer to create a file specified by said data field.

67. (New) The print job file of claim 65 wherein said module header comprises a bit pattern that directs a processor in said printer to delete a file specified by said data field.

68. (New) The print job file of claim 65 wherein said module header comprises a bit pattern that directs a processor in said printer to create a directory specified by said data field.

69. (New) The print job file of claim 65 wherein said module header comprises a bit pattern that directs a processor in said printer to delete a directory specified by said data field.

70. (New) A computer readable medium carrying one or more sequences of instructions for updating the microcode of a printer, wherein execution of the one or more sequences of instructions by one or more processors causes the one or more processors to perform the steps of:

embedding a microcode update file as a module in a print job file;
inputting said print job file to said printer;
recognizing that said print job file includes said microcode update file; and
writing said microcode update file to a memory area in said printer indicated in said print job file.

71. (New) The computer readable medium of claim 70, wherein said microcode update file includes an executable program.

72. (New) The computer readable medium of claim 71, wherein execution of the one or more sequences of instructions by one or more processors causes the one or more processors to perform, after said step of writing, the step of transferring execution to said executable program.

73. (New) The computer readable medium of claim 72, wherein after said step of transferring, said executable program returns execution to a previously running program.

74. (New) The computer readable medium of claim 72, wherein said print job file comprises a plurality of modules, and further wherein after said step of transferring, said executable program downloads other modules of said plurality of modules to said printer.
